DATA EVALUATION REVIEW 11

I. Study Type: fish bioaccumulation

II. Citation:

Schwalbe-Fehl, M., Fischer, R. **Reply to the EPA Environmental Fate Data Review Dated October 20, 1988 Hoe 039866 Bioaccumulation in Fish.** performed by Hoechst AG, Frankfort am Main, Federal Republic of Germany, submitted by Hoechst Celanese Corporation, Somerville, NJ, USA. dated 12/22/88. Received EPA 12/12/89 under MRID # 413231-30.

III. Reviewer:

Typed Name: E. Brinson Conerly
Title: Chemist, Review Section 2
Organization: EFGWB/EFED/OPP

E B. Conerly 5/10/90

IV. Conclusions:

Due to its very high water solubility, Glufosinate ammonium will not bioaccumulate.

V. Materials and Methods: described in previous report

VI. Study Author's Results and/or Conclusions:

1) ***Characterization of radioactive residues in fish*** -- Accumulation behavior of a test substance is in general independent from the concentration in the flow through system. Therefore bioaccumulation factors are generally not influenced by the treatment level. The study proved -- as predicted from the physico-chemical parameters -- that HOE 039866 did not accumulate in fish tissues. Consequently, residues in fish are not of concern for the evaluation of HOE 039866.

2) ***Plateau of residues*** -- Although a real plateau was not reached, the total radioactive residues are only marginal. Even after exposure for 28 days, the maximum residue concentration (0.034 mg/kg in non-edible tissues) was three times lower than the concentration in the flow-through system (0.1 mg/1).

A theoretical plateau of approx. 0.03 $\pm$ 0.01 mg/kg in the non-edible tissues can be calculated if first-order kinetics for uptake and elimination of HOE 039866 are assumed. In edible tissues and for the whoe fish analyses, no plateau can be calculated because there i no significant increase in the concentration during the uptake phase but only varying concentrations slightly above the limit of quantification.

3) ***Nature of the residues in the water at days 3 and 21*** -- ... the radio-HPLC chromatograms of the water samples together with the authentic reference compound ...[proves] that HOE 039866 was the only detectable radioactive compound in the water.

4) ***Radioactivity in the control samples*** -- [data attached]

5) ***Bioconcentration factors at all sampling times*** -- [data attached]

VII. Reviewer's Comments: The water solubility of the compound, and the results obtained in the original study serve to demonstrate that Glufosinate ammonium will not bioaccumulate in fish.

VIII. CBI Information Addendum: n.a.